

PATRICK D. ROBBINS (CABN 152288))
Attorney for the United States
Acting Under Authority Conferred by 28 U.S.C. § 515

MARTHA BOERSCH (CABN 126569)
Chief, Criminal Division

ROBERT S. LEACH (CABN 196191)
ADAM A. REEVES (NYBN 2363877)
KRISTINA N. GREEN (NYBN 5226204)
ZACHARY G.F. ABRAHAMSON (CABN 310951)
Assistant United States Attorneys

450 Golden Gate Avenue, Box 36055
San Francisco, California 94102-3495
Telephone: (415) 436-6912
Fax: (415) 436-7234
Email: Robert.Leach@usdoj.gov

Attorneys for United States of America

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,)	Case No. CR-18-577 CRB
)	
Plaintiff,)	UNITED STATES' MOTION <i>IN LIMINE</i> :
)	TO EXCLUDE EXPERT TESTIMONY OF JOHN
v.)	LEVITSKE
)	
MICHAEL RICHARD LYNCH AND)	Trial Date: March 18, 2024
STEPHEN KEITH CHAMBERLAIN,)	Judge: Hon. Charles Breyer
)	
Defendant.)	
)	

TABLE OF CONTENTS

I. INTRODUCTION.....1

II. THE LEVITSKE REPORTS3

III. ARGUMENT.....4

 A. Changes to Mr. Levitske’s Numbers, Methods, and Conclusions Between
 Levitske Report 1 and Levitske Report 2.....4

 B. Mr. Levitske’s “Normalization Adjustment” In Levitske Report 213

IV. CONCLUSION.....19

TABLE OF AUTHORITIES

Cases

City of Pomona v. SQM N. Am. Corp.,
750 F.3d 1036 (9th Cir. 2014) 6, 17

Daubert v. Merrell Dow Pharms., Inc.,
43 F.3d 1311 (9th Cir. 1995)..... 11

Daubert v. Merrell Dow Pharms., Inc.,
509 U.S. 579 (1993)..... 7, 11, 14

United States v. Vera,
770 F.3d 1232 (9th Cir. 2014) 17

Rules

Fed. R. Crim. P. 16.....passim

Fed. R. Evid. 401.....passim

Fed. R. Evid. 402.....passim

Fed. R. Evid. 403.....passim

Fed. R. Evid. 702.....passim

1 **I. INTRODUCTION**

2 On December 7, 2023, Defendant Dr. Michael Richard Lynch served an expert report for its
3 valuation expert, John Levitske (“Levitske Report 1”). *See* Declaration of Kristina Green in Support of
4 United States’ Motion in Limine: To Exclude Expert Testimony of John Levitske (hereinafter “Green
5 Decl.”), Ex. A. The purported purpose of Mr. Levitske’s analysis is to apply the revenue adjustments
6 necessary to account for the alleged fraudulent transactions and assess the impact of those adjustments
7 on certain calculated valuation metrics. The government moved pretrial to exclude the testimony of Mr.
8 Levitske, arguing that his proposed testimony “is not the product of reliable principles and methods, not
9 based on sufficient facts or data, rests on inherently flawed assumptions, and is, in part, irrelevant.”
10 ECF No. 298 at 14 (“Gov. MIL #3”); Fed R. Evid. 702. The government also argued that Levitske
11 Report 1 failed to comply with Rule 16’s disclosure requirements, noting, by way of example, that Mr.
12 Levitske’s Attachment C (addressing his analysis with respect to the VAR transactions) did not outline
13 the underlying transactions driving each of his aggregate numbers and that the government had been
14 unable to “reconcile [Levitske’s numbers] despite best efforts.” Gov. MIL #3 at 14–15.

15 At the pretrial conference, the Court stated with respect to Levitske Report 1 that “it was a bit of
16 a mystery to me. I don’t know what he’s saying. I can’t make it out.” *See* Green Decl. Ex. C (“Pretrial
17 Hrg. Tr.”), 40:18–19. The Court offered that Defendant may provide a “supplemental disclosure
18 pinpointing the bases for the opinions that he’s given. Because as I read – Mr. Levitske’s opinion, it just
19 doesn’t make any sense to me.” Pretrial Hrg. Tr. 41:1–3. In response, defense counsel claimed that Mr.
20 Levitske’s “disclosure was more than sufficient” and that the government was merely “quibbl[ing] about
21 a few of the inputs.” Pretrial Hrg. Tr. 41:11–13.

22 The Court was right to require Defendant to produce a supplementary report. On the eve of jury
23 selection, March 13, 2024, Defendant served a revised expert report of Mr. Levitske (“Levitske Report
24 2”). *See* Green Decl. Ex. B. Per the Court’s order, the government was expecting an updated report that
25 *clarified* the bases of the opinions provided in Levitske Report 1. Instead, the government received a
26 report drastically different from Mr. Levitske’s first report. Levitske Report 2 contains a plethora of
27 changes to the numbers used in Mr. Levitske’s analyses, changes to Mr. Levitske’s methodology,
28 changes to Mr. Levitske’s conclusions, new opinions about cash flow, including a new metric (cash flow

as a percentage of revenue), and an *entirely new analysis* of the VAR transactions based on what Mr. Levitske now terms a “normalization adjustment.” Indeed, putting aside the new VAR analysis, 83% of Mr. Levitske’s summary conclusions as to the impact of applying the revenue adjustments on his valuation metrics changed (from positive to negative) between Levitske Report 1 and Levitske Report 2:

Levitske Report 1	Levitske Report 2
Cash flow during H1 2010 is increased .	Cash flow during H1 2010 is higher .
Cash flow during H1 2011 is increased .	Cash flow during H1 2011 is decreased .
In total, the amount of cash flow for combined H1 2010 and H1 2011 is increased .	In total, the amount of cash flow for combined H1 2010 and H1 2011 is decreased .
The year-over-year percentage change for revenues (growth) , after adjustments is greater .	The year-over-year percentage change for revenues (growth) , after adjustments is similar to values based upon the originally reported amounts. [Although Mr. Levitske writes “similar” in his written conclusion, Attachment G.1, which provides the analysis behind these conclusions, shows that revenue growth after adjustments was lower by 0.3%].
The profit margin percentage for H1 2010 and H1 2011 are both greater .	The profit margin percentage for H1 2010 and H1 2011 are both lower .
The year-over-year percentage change for profit from operations (growth) , after adjustments is similar .	The year-over-year percentage change for profit from operations (growth) , after adjustments is lower than based upon the originally reported amounts.

Hence the emergence of Mr. Levitske’s new “normalization” analysis. This analysis is confusing and complex but, at a high level, involves Mr. Levitske reducing the revenue adjustment amount for the first half of 2011 by 63%. Unsurprisingly, this then impacts Mr. Levitske’s aggregate summary conclusions. The “normalization” analysis causes certain of his calculated valuation metrics to revert to the direction that serves Defendant—allowing Mr. Levitske to draw conclusions that the valuation metrics would have become more positive when adjustments to correct for the fraudulently recognized revenue are made, where, without the normalization adjustment, the metrics moved in the negative direction. Why did Mr. Levitske suddenly include this normalization analysis in Levitske Report 2 when he did not deem it necessary or relevant in Levitske Report 1? Defendant *needs* Mr. Levitske to reach certain conclusions to serve his case. When, due to the Court’s order, Mr. Levitske was forced to acknowledge that his prior assumptions, methodology and numbers were flawed and so he

1 changed his analyses, that had a severe impact on his prior conclusions. Thus, Mr. Levitske
 2 manufactures a new analysis based on no sound justification that conveniently reduces (or to use Mr.
 3 Levitske's term "normalizes") the fraud by over 60%.

4 Far from clarifying his opinions, Mr. Levitske's second report has *increased in complexity* –
 5 adding new, irrelevant, and confusing analyses that are divorced from the factual realities of this case.
 6 Moreover, that Mr. Levitske's numbers, methods, and conclusions changed so significantly following
 7 the critiques pointed out by the government is indicative of the inherent lack of reliability in his original
 8 methods and analyses and calls into question his relevance (and qualifications) as an expert in this case.
 9 The government hereby renews its request that the Court exercise its gatekeeping function and exclude
 10 Mr. Levitske's testimony, including, particularly, all new analyses and opinions pertaining to cash flow
 11 and the VAR transactions, which were not timely noticed under Rule 16. Fed. R. Crim. P. 16. The
 12 analyses and conclusions in Levitske Report 2 are irrelevant and are not the product of reliable
 13 principles and methods. *See* Fed. R. Evid. 401, 402, 702 and *Daubert*. To the extent Mr. Levitske's
 14 testimony has even minimal probative value, that is far outweighed by the risks of confusing the issues,
 15 misleading the jury, and wasting time. Fed. R. Evid. 403.

16 **II. THE LEVITSKE REPORTS**

17 Mr. Levitske's expert reports focus on valuation. For purposes of his analysis, Mr. Levitske
 18 states that he assumed "that the revenue accounting adjustments asserted in the VBOP¹ and the Brice
 19 Reports . . . are appropriate" and "opine[s] about the impact of applying those hypothetical adjustments
 20 to Autonomy's historical reported financial statements." Levitske Report 2 ¶ 2.1.3. Mr. Levitske
 21 focuses only on two time periods: first half of 2010 and first half of 2011. Although Mr. Levitske
 22 provided some calculations and opinions on cash flow in Levitske Report 1, he has supplemented this
 23 section of his report in Levitske Report 2, adding additional details, analyses, and opinions.
 24 Furthermore, in Levitske Report 2, Mr. Levitske had added new analysis and opinions pertaining to a
 25 new metric—cash flow as a percentage of revenue. Mr. Levitske opines that a "higher cash flow as a
 26 percentage of revenue indicates greater efficiency as a cashflow generating operation and is a factor that

27
 28 ¹ The VBOP refers to the Voluntary Bill of Particulars filed by the government on October 8, 2023.

1 contributes to higher valuation.” Levitske Report 2 ¶ 2.1.2 n.4. The overarching premise of Mr.
 2 Levitske’s report is to assess the impact of revenue adjustments to correct for the alleged fraud on the
 3 amounts of profit from operations, profit from operations margins, the year-over-year percentage change
 4 or growth between the first half of 2011 (H1 2011) compared to the first half of 2010 (H1 2010), and
 5 cash flow, to establish, presumably, that even if Autonomy had recognized revenue appropriately
 6 (according to the government), its valuation metrics would only have become more attractive to HP (or
 7 the public), not less. Levitske Report 2 ¶¶ 2.1.4, 2.1.27–2.1.28.

8 Mr. Levitske divides the revenue adjustments he evaluates into the following categories:
 9 hardware transactions, allegedly linked transactions (also termed reciprocal transactions in the Brice
 10 Reports),² VAR (value added reseller) transactions, and multi-period hosting transactions. *Id.* Mr.
 11 Levitske calculates the impact of the adjustments on his valuation metrics for each of these sections
 12 independently, as well as provides aggregate summary conclusions (which he terms his “financial
 13 statement analysis and valuation” conclusions) assessing the impact of all the adjustments taken
 14 together. Levitske Report 2 ¶¶ 3.1.8– 3.1.12. In Levitske Report 2, Mr. Levitske also provides new
 15 analyses and aggregate summary conclusions based on, in one instance, removing consideration of all
 16 VAR transactions entirely; and in another instance applying a “normalization adjustment” to certain of
 17 the VAR transactions, which essentially involves him reducing the fraudulent revenue adjustment
 18 related to these deals by approximately 63%. These analyses were absent from Levitske Report 1.

19 **III. ARGUMENT**

20 **A. Changes to Mr. Levitske’s Numbers, Methods, and Conclusions Between Levitske** 21 **Report 1 and Levitske Report 2**

22 Mr. Levitske divides his “Summary of Opinions” with respect to the impact of the revenue
 23 adjustments into five categories: (1) hardware transactions, (2) alleged linked transactions, (3) VAR
 24 transactions, (4) multi-period hosting transactions, and (5) cash flow. With respect to three of these
 25

26 ² These are transactions in which Autonomy entered into an agreement to sell product to a third
 27 party, but also entered into a transaction to buy product from that third party in such a way that the
 28 commercial effect of the transactions could not be understood without reference to one another. Mr.
 Brice concludes that certain transactions are linked or reciprocal and so should have been accounted for
 together as linked under the IFRS. Brice Report 2 § 2.6.

1 sections—linked transactions, VAR transactions, and multi-period hosting transactions—Mr. Levitske
2 changed numbers driving his analyses between Levitske Report 1 and Levitske Report 2, which in turn
3 caused changes to his conclusions. *See infra*. In addition, with respect to all of these sections, Mr.
4 Levitske has added new conclusions pertaining to cash flow as a percentage of revenue.

5 First, Mr. Levitske does not explain why he now believes his new metric, cash flow as a
6 percentage of revenue, is a relevant metric to consider, given that he did not deem it necessary to include
7 this metric in Levitske Report 1. Not only should opinions pertaining to this metric be excluded for
8 failure to timely disclose under Rule 16, but they are also of little to no relevance to the jury and should
9 be excluded on that basis. Mr. Brice’s adjustments (which purportedly form the basis of Mr. Levitske’s
10 analyses) generally had the impact of decreasing top line revenue because he is adjusting for revenue he
11 opines was improperly recognized. As such, it is not surprising that applying these adjustments (that
12 decrease revenue) would increase cash flow as a percentage of revenue. This metric may be useful if
13 comparing the revenue to cash conversion of two competing businesses but has no relevance when (1)
14 assessing one company on a standalone basis, (2) it is not apparent that HP even considered this metric,
15 and (3) this metric is viewed in the absence of qualitative concerns that are driving it, namely that the
16 metric is only shifting because allegedly fraudulent transactions are being removed.

17 Second, Mr. Levitske does not provide a detailed explanation for why he has changed his
18 numbers, methods, and conclusions in Levitske Report 2, but implies that these revisions were the result
19 of additional information provided in Brice Report 2.³ *See* Levitske Report 2 ¶ 1.1.2 (“I previously
20 prepared and submitted [Levitske Report 1] in this matter. I subsequently received and considered
21 [Brice Report 2]. In part, the January 3, 2024 report by Mr. Brice provides additional information that I
22 *did not have* when preparing my December 7, 2023 report.”) (emphasis added). This suggestion that the
23 extensive revisions to Mr. Levitske’s report were caused by the provision of new information in Brice
24 Report 2 is false, unsubstantiated, and a blatant attempt to deflect from the flaws and inaccuracies that
25 plagued Levitske Report 1. The government detailed the changes between Brice Report 1 and Brice
26 Report 2 in its opposition to Defendant’s motion to exclude parts of Brice Report 2 (which the Court
27

28 ³ “Brice Report 2” refers the expert report of government expert Steven Brice, served on January 3, 2024. “Brice Report 1” refers to the expert report of Steven Brice served on November 8, 2023.

denied), so will not do so again here. *See* ECF No. 318, at 2–4. Suffice it to say that, aside from the new sections outlining rebuttal opinions with respect to Defendant’s proposed experts, the other changes were minor, mostly consisting of non-substantive typographical revisions and a few additional charts to provide visual depictions of conclusions. With respect to the two sections relevant to Mr. Levitske’s analyses—the sections on software transactions and hardware transactions—Mr. Brice did not make any new revenue adjustments that impacted Mr. Levitske’s analysis.

Brice Report 2 did include Mr. Brice’s rebuttal opinion on Levitske Report 1. Mr. Brice performed work that Mr. Levitske *should have undertaken* if he had used a reliable methodology in Levitske Report 1. Namely, because Mr. Levitske in Levitske Report 1 premised his analysis on eliminating the fraudulently recognized revenue and related costs/expenses, Mr. Brice, using records produced in discovery that were available to Mr. Levitske (or should have been made available by Defendant), undertook this analysis but relied on facts *not* false assumptions. In doing so, Mr. Brice established that Mr. Levitske’s assumptions and methodology were flawed because they were inconsistent with the reality of how Autonomy recognized expenses and incurred costs. Thus, what *did change* between Levitske Report 1 and Levitske Report 2 is (1) the government filed its Gov. MIL #3 highlighting flaws in Mr. Levitske’s methodology and potential inaccuracies in his numbers, *see* ECF No. 298 at 14–19; and (2) Mr. Brice served his rebuttal opinion responding to Levitske Report 1, which detailed similar as well as additional critiques. In Levitske Report 2, Mr. Levitske changed his methodology and assumptions with respect to the linked transactions, VAR transactions, and hosting transactions in a manner consistent with the points made in Gov. MIL #3 and Brice Report 2, so seemingly conceding that his original methodology, assumptions, and, in certain cases, numbers themselves, were indeed flawed.

The fact that Mr. Levitske, rather than clarifying the bases for his opinions in Levitske Report 1, instead chose to change his analyses and numbers so significantly in response to the government’s brief and Mr. Brice’s rebuttal opinion not only casts doubt on his qualifications and relevance as an expert in this case base but also bolsters the government’s original argument that Mr. Levitske’s conclusions do not rest upon a reliable foundation. *See City of Pomona v. SQM N. Am. Corp.*, 750 F.3d 1036, 1043–44 (9th Cir. 2014) (“[T]he trial court must assure that the expert testimony ‘both rests on a reliable

foundation and is relevant to the task at hand.”) (citing *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993)).

1. Hardware Transactions

Levitske Report 2 is, for the most part, consistent with Levitske Report 1 with respect to the analysis of hardware transactions except that, as discussed above, it adds an analysis and conclusion that was absent in the latter—that “Autonomy’s cash flow as a percent of revenue would likely have been higher than based upon originally reported amounts.” Levitske Report 2 ¶ 2.1.11(f). The government maintains its position that backing out the hardware transactions is not a relevant exercise that will assist the jury in deciding the facts of the case. The primary issue with the hardware transactions relates to their disclosure—there is no factual dispute that they occurred. A hypothetical scenario where Mr. Levitske assumes these transactions did not occur and draws valuation conclusions is just an irrelevant quantitative exercise.

2. Linked Transactions

In Levitske Report 2, Mr. Levitske changed his methodology with respect to how he backed out the revenue and expenses related to the linked transactions and now adopts a methodology consistent with that asserted by the government and Mr. Brice as the appropriate way to back out these transactions, should Mr. Levitske want to engage in this exercise. *See, e.g.*, Gov. MIL #3 at 16–17. In Levitske Report 1, Mr. Levitske backed out the expenses associated with the linked transactions in a lump sum, despite the fact that Autonomy had in fact capitalized and amortized these expenses over a period of time. Mr. Levitske has now corrected for this error in Levitske Report 2. This revised methodology resulted in approximately 50% of the inputs and calculated numbers changing in Mr. Levitske’s linked transactions analysis (Attachment B). *See* Green Decl. Ex. D (comparison of Attachment B in Levitske Report 1 and Levitske Report 2).

These revisions have resulted in changes to 67% of Mr. Levitske’s conclusions as to the impact of applying Mr. Brice’s linked transaction adjustments on the calculated valuation metrics between Levitske Report 1 and Levitske Report 2:⁴

⁴ Levitske Report 1 ¶¶ 2.1.13, 3.1.3; Levitske Report 2 ¶¶ 2.1.15, 3.1.4.

Levitske Report 1	Levitske Report 2
Profit from operations is now greater than reported during both H1 2010 and H1 2011.	Profit from operations is now lower than reported during both H1 2010 and H1 2011.
The profit from operations margin , as a percent of revenue, is now greater for both H1 2010 and H1 2011.	The profit from operations margin , as a percent of revenue, is now lower for H1 2010 and within .6 percent for H1 2011.
Autonomy would have had higher profits and higher profit margins .	Autonomy would have had slightly lower profits and profit margins .
Autonomy's revenue growth would have been higher .	Autonomy's revenue growth would have been higher .
The rate of year-over-year change (growth) in profit from operations is lower than the year-over-year change based upon the originally reported amounts. However, profits are still growing .	The rate of year-over-year change (growth) in profit from operations is now greater than the year-over-year change based upon the originally reported amounts.
Autonomy's cash flow would likely have been higher .	Autonomy's cash flows would likely have been higher .
	New Conclusion: Autonomy's cash flow as a percentage of revenue would likely have been higher than based upon originally reported amounts. ⁵

3. VAR Transactions (without Levitske's New "Normalization Adjustment")

Mr. Levitske considers two types of VAR transactions in his analysis—"Direct VAR" transactions and "Allegedly Linked VAR" transactions. Mr. Levitske defines Direct VAR transactions as those in which Autonomy entered into a direct transaction with the end user subsequent to entering into the VAR transaction. Levitske Report 2 ¶ 2.1.17. Mr. Levitske defines Allegedly Linked VAR transactions as those in which the VAR paid Autonomy for a transaction but "allegedly only as a result of Autonomy buying other goods from the VAR." Levitske Report 2 ¶ 2.1.18. In Levitske Report 1, Mr. Levitske wrote that he was "asked by counsel to assume that the related expense was recorded in the same period in which the select VAR transaction was recognized as revenue." Levitske Report 1 ¶ 2.1.16. The government and Mr. Brice argued that this assumption was "flawed" and was inconsistent with the relevant facts because often the "related expense for the VAR revenue was capitalized and amortized and/or occurred in a later quarter than the quarter in which the sale [to the VAR] occurred."

⁵ Throughout this brief, green text reflects a potentially positive valuation metric, red text reflects a potentially negative valuation metric, and blue shading represents new conclusions based upon new metrics not contained within Levitske Report 1.

Gov. MIL # 3 at 17. Mr. Levitske has now conceded this erroneous assumption and, in Levitske Report 2, adjusted his methodology by backing out the costs/expenses in a manner that aligns with when Autonomy actually incurred and recognized these expenses. In response to the government's request and the Court's order, Mr. Levitske also supplemented his VAR analysis to show the specific transactions driving his aggregate numbers. Both the change in methodology and the fact that he has now been required to show the bases for his numbers resulted in approximately 71% of Mr. Levitske's inputs and calculated numbers changing between the VAR analysis in Levitske Report 1 and that in Levitske Report 2. *See* Green Decl. Ex. E (comparison of Attachment C in Levitske Report 1 and Levitske Report 2).

These revisions have resulted in the following changes to approximately 57% Mr. Levitske's conclusions regarding the impact of applying the VAR adjustments on Mr. Levitske's valuation metrics between Levitske Report 1 and Levitske Report 2:⁶

Levitske Report 1	Levitske Report 2
Profit from operations would be lower than originally reported for both H1 2010 and H1 2011. [Autonomy would have had lower profits.]	Profit from operations is now lower than originally reported for both H1 2010 and H1 2011. [Autonomy would have had lower profits].
The profit from operations margin , as a percent of revenue, is approximately unchanged for both H1 2010 and H1 2011.	The profit from operations margin , as a percent of revenue, is now lower for both H1 2010 and H1 2011.
Autonomy would have had a higher profit margin in H1 2010 and a lower profit margin in H1 2011.	Autonomy would have had lower profit margins .
The rate of year-over-year change (growth) in revenue is now lower than the year-over-year change based upon the originally reported amounts. However, revenue is still growing .	The rate of year-over-year change (growth) in revenue is now lower than the year-over-year change based upon the originally reported amounts.
The rate of year-over-year change (growth) in profit from operations is lower than the year-over-year change based upon the originally reported amounts.	The rate of year-over-year change (growth) in profit from operations is now lower than the year-over-year change based upon the originally reported amounts.
However, profits are still growing .	[Although not stated as a written conclusion, Levitske Report 2, Att. C.1, now shows that, with Levitske's adjustments, profits are decreasing between H1 2010 and H1 2011 by 7.8%]

⁶ Levitske Report 1 ¶¶ 2.1.18, 3.1.4; Levitske Report 2 ¶¶ 2.1.21, 3.1.5, Att. C.1.

Autonomy's cash flow would likely have been higher .	Autonomy's cash flow is now lower / Autonomy's cash flow would likely have been reduced .
	<p>New Conclusion: Autonomy's cash flow as a percentage of revenue would have been within 0.9 percent in H1 2010 and within 1.2 percent in H1 2011 compared to amounts based upon the originally reported amounts.</p> <p>[Levitske's written conclusion uses the word "within" which is vague. In fact, Levitske Report 2, Att. C.1 shows that, applying the adjustments, cash flow as a percentage of revenue is 0.8% lower in H1 2010 and 1.2% lower in H1 2011 compared to amounts based upon the originally reported amounts.]</p>

4. Multi-Period Hosting

In Levitske Report 1, Mr. Levitske wrote that he "was asked to assume the full amount of cash was received and recorded up-front." Levitske Report 1 ¶ 2.1.24(d). The government pointed out that this was a flawed assumption because, for certain transactions, the full amount of cash was not received upfront but was instead received during different points during the life of the contract. Gov. MIL # 3 at 18. Mr. Levitske has seemingly now acknowledged the assumption he was asked to make by Defendant was flawed and, in Levitske Report 2, he has adjusted for this mistake by adjusting the cash flows with respect to the hosting transactions so that they align with the actual periods when Autonomy received the cash and in what amounts. This adjustment to his methodology caused the net impact to cash flow of the adjustments to decrease by \$1.62m in H1 2010 (\$12.10m - \$10.48m), and to decrease by \$7.01m in H1 2011 (\$7.50m - \$0.49m). *See* Green Decl. Ex. A, at Att. F; Ex. F (Comparison of Levitske Report 2 Att. F and Levitske Report 1 Att. F). The impact of the cash flow adjustments as a percentage of reported cash flow also dropped between Levitske Report 1 and Levitske Report 2. In Levitske Report 1 the adjustments resulted in a 6.3% increase in cash flow in H1 2010 and 3.9% increase in H1 2011, whereas in Levitske Report 2 the parallel metrics were 5.5% for H1 2010 and 0.3% for H1 2011. *Id.*

The conclusions Mr. Levitske draws regarding the hosting adjustments are the same in Levitske Report 1 and Levitske Report 2, except Mr. Levitske now adds an additional calculation and opinion that was absent from Levitske Report 1. *Compare* Levitske Report 1 ¶ 3.1.5 with Levitske Report 2 ¶ 3.1.7.

Mr. Levitske’s new opinion is that “Autonomy’s cash flow as a percentage of revenue would have been higher than based upon the originally reported amounts.” Levitske Report 2 ¶ 3.1.7.⁷

5. Cash Flow

In Levitske Report 2, Mr. Levitske provides a new conclusory assertion that “Cash flow is the most important driver in a valuation analysis.” Levitske Report 2 ¶ 2.1.27. Mr. Levitske does not provide any basis for this opinion tethered to the facts of the case. The opinion does not rest upon a reliable foundation and should be excluded. Fed. R. Crim. P. 16; Fed. R. Evid. 702; *Daubert*, 509 U.S. at 597; *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1316 (9th Cir. 1995) (An “expert’s bald assurance of validity is not enough”; rather “the party presenting the expert must show that the expert’s findings are based on sound science, and this will require some objective, independent validation of the expert’s methodology.”).

In addition to the cash flow conclusions discussed above, Mr. Levitske has added three pages of analysis and conclusions related to “[a]ggregated” changes to cash flows based on his adjustments, which were not included in Levitske Report 1. *See* Levitske Report 2 ¶¶ 2.1.29(e)–(h). The data in this analysis is drawn from his analyses related to hardware, linked, VAR, and hosting transactions, discussed above.

Mr. Levitske also adds summary conclusions with respect to cash flow that were not contained within Levitske Report 1. He writes that in total after his adjustments: (1) “cash flow would be lower, on average between H1 2010 and H1 2011 by approximately \$4 million”; (2) “Incorporating my normalization adjustment which I deem appropriate to the asserted adjustments, cash flow would be higher, on average between H1 2010 and H1 2011 by approximately \$2 million; and (3) “In both cases, cash flow as a percent of adjusted revenue in both H1 2010 and H1 2011 would be higher, indicating a more efficient cash flow generating operation.” Levitske Report 2 ¶ 2.1.29(h)(iii); *see also id.* ¶ 3.1.12(g). For the reasons stated above and below, any new opinions based on Mr. Levitske’s “normalization” adjustment and cash flow as a percent of adjusted revenue metric should be excluded.

⁷ Mr. Levitske also added written opinions to Levitske Report 2 that were absent from Levitske Report 1, however, these opinions appear to have been drawn from calculations in his Attachment C, which were included in his first report. Levitske Report 2.1.26(b).

6. Aggregate Conclusions: “Financial Statement Analysis and Valuation”

In both Levitske Report 1 and Levitske Report 2, Mr. Levitske provides summary conclusions that aggregate the findings of his analyses with respect to the above sets of transactions. Not surprising given the changes discussed above between his two reports, these sets of conclusions outlining the aggregate impact of applying the revenue adjustments on his valuation metrics have also changed between Levitske Report 1 and Levitske Report 2 as follows:⁸

Levitske Report 1	Levitske Report 2
Cash flow during H1 2010 is increased .	Cash flow during H1 2010 is higher .
Cash flow during H1 2011 is increased .	Cash flow during H1 2011 is decreased .
In total, the amount of cash flow for combined H1 2010 and H1 2011 is increased .	In total, the amount of cash flow for combined H1 2010 and H1 2011 is decreased .
The year-over-year percentage change for revenues (growth) , after adjustments is greater .	The year-over-year percentage change for revenues (growth) , after adjustments is similar to values based upon the originally reported amounts. [Although Mr. Levitske writes “similar” in his written conclusion, Attachment G.1, which provides the analysis supporting these conclusions shows that revenue growth after adjustments was lower by 0.3%].
The profit margin percentage for H1 2010 and H1 2011 are both greater .	The profit margin percentage for H1 2010 and H1 2011 are both lower . ⁹
The year-over-year percentage change for profit from operations (growth) , after adjustments is similar .	The year-over-year percentage change for profit from operations (growth) , after adjustments is lower than based upon the originally reported amounts.
	New Conclusion: The cash flow as a percentage of revenue is greater for both periods than based upon the originally reported amounts.

The above table shows that, excluding Mr. Levitske’s new metric (cash flow as a percentage of revenue), **83%** of Mr. Levitske’s summary conclusions with respect to his financial statement analysis and valuation have changed from positive to negative between Levitske Report 1 and Levitske Report 2.

⁸ Levitske Report 1 ¶ 3.1.10(d); Levitske Report 2 ¶ 3.1.12 (d), Att. G.1.

⁹ Mr. Levitske removes a written conclusion on this metric in Levitske Report 2, *see* Levitske Report 2 ¶ 3.1.12(d), but this conclusion is evident from Att. G.1 to Levitske Report 2.

1 Thus, what the defense dismissed as the government merely “quibbling” with a few inputs has in fact
2 resulted in drastic revisions to Mr. Levitske’s summary conclusions.

3 Mr. Levitske tries to mitigate the changes in his summary conclusions in two ways. First, he
4 provides a parallel set of conclusions that only includes the analysis for hardware, alleged link
5 transactions, and hosting transactions, and completely excludes all analysis with respect to the VAR
6 transactions. Levitske Report 2 ¶¶ 2.1.29(f), 3.1.12(e), Att. G.2. This analysis bears no relevance to this
7 case and Mr. Levitske does not provide any explanation in support of this analysis that suggests
8 otherwise. The premise of Mr. Levitske’s overarching analysis is purportedly to show that if one
9 applied the revenue adjustments suggested by the government, the valuation of Autonomy would have
10 improved not declined. As such, Mr. Levitske’s method, as established in Levitske Report 1, was to
11 apply Mr. Brice’s adjustments, offsetting revenue and expenses as applicable, and show the impact of
12 these adjustments on cash flow and valuation metrics. Mr. Levitske provides no explanation for why,
13 then, in Levitske Report 2, he adds a new analysis that *entirely excludes* any adjustments related to the
14 VAR transactions, which are a key part of the alleged fraud and so the adjustments proposed by Mr.
15 Brice. While not stated, the only apparent reason one can infer for why Mr. Levitske is now including
16 this new analysis that excludes consideration of the VAR transactions is because this allows Mr.
17 Levitske’s conclusions with respect to cash flow, profit from operations, and growth etc. to shift from
18 negatives to positives. For example, if VAR transactions are excluded, cash flow in H1 2011 is
19 increased (instead of decreased) and growth in profit from operations becomes greater (instead of
20 lower). Mr. Levitske’s new analysis excluding VAR transactions is irrelevant and should be excluded
21 under Fed. R. Evid. 401, 402, 403, 702, and *Daubert*, as well as Fed. R. Crim. P. 16.

22 Second, Mr. Levitske conducts an analysis that incorporates a “Direct VAR Normalization
23 Adjustment”, which alters his calculations and ensuing conclusions, and seems to serve no relevant
24 purpose other than allow him to draw conclusions that serve Defendant’s goals. Levitske Report 2 ¶
25 3.1.12(f). This “normalization” adjustment is discussed further below.

26 **B. Mr. Levitske’s “Normalization Adjustment” In Levitske Report 2**

27 The most significant addition to Mr. Levitske’s report is the inclusion of what he terms a
28 “Normalization Adjustment” to the Direct VAR transactions included within his analysis. Mr. Levitske

purports to calculate this normalization adjustment by averaging the amount of revenue that Autonomy would have realized through entering into the ultimate end user agreements related to the Direct VAR transactions for transactions that had a financial impact¹⁰ in H1 2010 and H1 2011. Levitske Report 2 ¶¶ 2.1.20, 2.1.22, 2.1.29(g), 2.1.29(h)(iii), 3.1.6, 3.1.12(f), 3.1.12(g)(iii). The net effect of Mr. Levitske's normalization adjustment is to reduce the revenue adjustments proposed by Mr. Brice by 62.9% (Mr. Levitske's average revenue "realization rate") in H1 2011. Levitske Report 2 ¶ 2.1.20(f) (Table 2). As such, where Mr. Brice found a net revenue reduction adjustment of \$26.21m appropriate for H1 2011, Mr. Levitske, by applying his normalization adjustment, instead calculates a net revenue reduction adjustment of \$9.71m. *See* Levitske Report ¶ 2.1.20(f), Att. C. Unsurprisingly, this adjustment has a significant impact on Mr. Levitske's conclusions and allows him to draw conclusions that are now positive from a valuation perspective, where previously they had been negative without application of this normalization analysis. *Compare* Levitske Report 2 ¶ 3.1.12(d) *with* 3.1.12(f); *see also infra* (table summarizing the differences). Mr. Levitske's normalization analysis lacks relevance, will not assist the jury in understanding the evidence or determining a fact at issue, is not the product of reliable principle or methods applied to the facts of the case, and will do nothing more than confuse and mislead the jury. The Court should exercise its gatekeeping role and exclude this normalization analysis and any conclusions drawn from it. Fed. R. Evid. 401, 402, 403, 702; *Daubert*, 509 U.S. at 589, 597. The Court should also exclude this analysis because it was not timely noticed in Levitske Report 1. Fed. R. Crim. P. 16.

Mr. Levitske did not incorporate nor even mention the need for a "normalization adjustment" in Levitske Report 1. Mr. Levitske now claims for the first time in Levitske Report 2 that he "deem[s] a normalization adjustment to be an appropriate consideration for developing a financial statement analysis and assessment of cash flow for valuation purposes." Levitske Report 2 ¶ 2.1.20(g)(ii). Well, if that were the case, *why did Mr. Levitske not deem this normalization adjustment appropriate or relevant when he wrote Levitske Report 1?* Factually, nothing has changed between the time of writing of

¹⁰ "Financial impact" refers either to where the initial Direct VAR transactions is reversed or where revenue from the subsequent transaction with end user is recognized either in H1 2010 or H1 2011.

Levitske Report 1 and Levitske Report 2. What has changed is that Mr. Levitske, following submission of the Gov. MIL #3 and Mr. Brice's rebuttal report, felt compelled to change assumptions, methods, and numbers in his prior report, implicitly acknowledging that the critiques levelled at his analysis had merit. When Mr. Levitske adjusted his analyses to account for these prior flaws, the conclusions drawn from his analyses changed extensively. *See* Section III.A., *supra*. Thus emerges Mr. Levitske's "normalization" analysis. This normalization analysis is nothing more than a blatant attempt by Defendant and his expert to reduce the revenue impact of the adjustments necessitated by the fraudulent Direct VAR transactions, so that Mr. Levitske can draw different (and more positive) conclusions, that more closely match those provided in Levitske Report 1.

Mr. Levitske's aggregate financial statement analysis and valuation conclusions change as follows in Levitske Report 2 when he applies his normalization analysis:¹¹

Levitske Report 2 (without Direct VAR Normalization Adjustment)	Levitske Report 2 (with Direct VAR Normalization Adjustment)
Cash flow during H1 2010 is higher .	Cash flow during H1 2010 is greater .
Cash flow during H1 2011 is decreased .	Cash flow during H1 2011 is decreased .
In total, the amount of cash flow for combined H1 2010 and H1 2011 is decreased .	In total, the amount of cash flow for combined H1 2010 and H1 2011 is increased .
The year-over-year percentage change for revenues (growth) , after adjustments is similar to values based upon the originally reported amounts. [Although Mr. Levitske writes "similar" in his written conclusion, Attachment G.1, which provides the analysis behind these conclusions shows that revenue growth after adjustments was lower by 0.3%].	The year-over-year percentage change for revenues (growth) , after adjustments is greater than based upon the originally reported amounts.
The profit margin percentage for H1 2010 and H1 2011 are both lower . ¹²	The profit margin percentage for H1 2010 and H1 2011 are both lower . ¹³

¹¹ Levitske Report 2 ¶ 3.1.12(d) (conclusions without normalization adjustments); ¶ 3.1.12(f) (conclusions with normalization adjustment); ¶ 3.1.12(g)(iii).

¹² Mr. Levitske removes a written conclusion on this metric in Levitske Report 2 (it was included in Levitske Report 1), *see* Levitske Report 2 ¶ 3.1.12(d), but this conclusion is evident from Att. G.1 to Levitske Report 2.

¹³ Mr. Levitske removes a written conclusion on this metric in Levitske Report 2 (it was included in Levitske Report 1), *see* Levitske Report 2 ¶ 3.1.12(f), but this conclusion is evident from Att. G.3 to Levitske Report 2.

1 The year-over-year percentage change for 2 profit from operations (growth), after 3 adjustments is lower than based upon the 4 originally reported amounts.	5 The year-over-year percentage change for 6 profit from operations (growth), after 7 adjustments is greater than based upon the 8 originally reported amounts.
9 New Conclusion: The cash flow as a 10 percentage of revenue is greater for both 11 periods than based upon the originally reported 12 amounts.	13 New Conclusion: The cash flow as a 14 percentage of revenue is greater for both 15 periods than based upon the originally reported 16 amounts.
17 New Conclusion: Cash flow would be lower , on 18 average between H1 2010 and H1 2011 by 19 approximately \$4 million.	20 New Conclusion: Cash flow would be higher , 21 on average between H1 2010 and H1 2011, by 22 approximately \$2 million.

23 As the table above demonstrates, 50% of Mr. Levitske's summary conclusions in Levitske
24 Report 2 change from negative to positive when he conducts his normalization analysis.

25 Mr. Levitske attempts to justify the use of his normalization adjustment by writing:

26 "The VAR Transactions and their impact on the subject periods is **episodic**
27 **and sporadic, and fluctuates significantly by quarter and half year.** In
28 addition, much or all of the impact of these transactions are offset in the
near term. Also, as previously noted, many of the revenue adjustments
asserted by the Brice Reports have a mis-matched impact when looking at
specific periods. . . . From an analytical perspective, the data also indicates
that the Brice Reports' asserted adjustment pertaining to H1 2011, a net
revenue reduction of approximately \$26 million, appears to be an **outlier in**
size (amount) and high in comparison to the average all periods
realization rate for these same transactions. Applying the aforesaid
average realization rate to the Brice Report's asserted adjustment for H1
2011 would indicate a net revenue reduction adjustment in H1 2011 of only
approximately \$9.7 million, instead of \$26 million. . . . As noted previously,
financial statement analysis for **valuation purposes commonly considers**
adjustments to identify economic benefits adjusted for nonrecurring,
noneconomic, or other unusual items to eliminate anomalies and/or
facilitate comparisons. Financial statement analysis for valuation
purposes considers context and may include normalization adjustments."

29 Levitske Report 2 ¶ 2.1.20 (emphasis added). Mr. Levitske adds in a footnote that: "Normalization
30 adjustments often consider nonrecurring items, or items that are not part of the a company's normal
31 business operations, that a hypothetical new owner may expect not to occur in the future. . . . Financial
32 statement normalization may enable more reliable comparisons and forecasting." *Id.* ¶ 2.1.20(g) n.31.

33 A normalization adjustment may be relevant in other contexts involving regular company
34 valuations divorced from considerations of fraud, but Mr. Levitske does not explain why such an
35 adjustment is relevant or appropriate in *this case*, which centers upon allegedly fraudulent revenue
36 recognition and financial statements. Fraudulent transactions may well be episodic or fluctuate in

1 amount and do not necessarily follow regular and expected business cycles. When assessing the impact
2 of an alleged fraud on valuation, the *amount of the alleged fraudulent transactions* is of primary
3 importance and should not be dismissed as “anomalies.” Indeed, Mr. Levitske is essentially striving to
4 “normalize” fraud, which is nonsensical.

5 Furthermore, incorporating a normalization adjustment is inconsistent with the overarching
6 premise of Mr. Levitske’s analysis, which is to consider the “impact of [Mr. Brice’s] revenue
7 adjustments” on profit, margins, growth, and cash flow. Levitske Report 2 ¶¶ 1.3.3, 3.1.13. Reducing
8 the amount of Mr. Brice’s adjustment related to the fraudulent transactions by 63% does not align with
9 Mr. Levitske’s claim that the purpose of his report is to take the adjustments as given and assess the
10 impact on valuation. While Mr. Levitske’s initial report was of tenuous, if any, relevance, an analysis
11 involving the normalization adjustment bears no relevance whatsoever and will confuse the jury and
12 waste its time with a hypothetical scenario that did not and would never have existed—namely a
13 scenario where the fraudulent transactions just happen to have been reduced by 63%.

14 In addition, based upon Mr. Brice’s adjustments, which Mr. Levitske purportedly adopts for his
15 valuation analysis, Autonomy was fraudulently reporting transactions repeatedly, every quarter from
16 2009-Q2 2011. Thus, far from being “nonrecurring” or not part of “normal business operations,” they
17 are instead a key part of how Autonomy was operating. Mr. Levitske also suggests a reason a valuer
18 might conduct a normalization analysis is to adjust for a non-recurring, anomalous transaction that a new
19 buyer might expect not to happen in the future. Inherent in this suggestion is the fact that the new buyer
20 would be *aware of the anomalous transactions* and want to adjust for them. In this case, however, and
21 indeed likely in any similar fraud case, the hypothetical buyer *would not* be aware of the fraudulently
22 accounted-for transactions, and, if they were aware that the proposed target was engaging in fraudulent
23 accounting, would logically want to know *the full scope* of the fraudulent transactions on the books, not
24 the fraudulent transaction amount reduced by a manufactured “realization rate” of over 60%. For all of
25 these reasons, the analysis is irrelevant and should be excluded. Fed. R. Evid. 401, 402, 403, 702; *City*
26 *of Pomona*, 750 F.3d at 1043–44 (holding expert testimony must be relevant and reliable).

27 In addition to being irrelevant, Mr. Levitske’s normalization analysis is not based upon a reliable
28 methodology and should also be excluded on that basis. *See United States v. Vera*, 770 F.3d 1232, 1235

(9th Cir. 2014) (“expert opinions must rest on reliable methodology”). Mr. Levitske justifies his normalization adjustment, in part, on the assertion that H1 2011 is an “outlier” in comparison to H1 2010. Levitske Report 2 ¶¶ 2.1.20(f)(iii), 2.1.20(e) (noting Brice adjustment of revenue increase of ~\$3m in H1 2010 versus net reduction of ~\$26m in H1 2011). Mr. Levitske, however, does not provide a scientifically sound explanation for how one time period (H1 2011) can be considered an outlier when compared to only one other data point (H1 2010). Indeed, if Mr. Levitske had reviewed the net impact of Mr. Brice’s adjustments in the interim period, H2 2010 (a time period he ignores in his analysis), he would have noted a net decrease adjustment of \$24.9m. *See* Green Decl. Ex. G (“Brice Rebuttal Report”) ¶ 2.4.14. In comparison to H2 2010, Mr. Brice’s adjustment for H1 2011 is quite consistent—not an outlier.

Mr. Levitske’s methodology for calculating his normalization adjustment also reflects a failure to apply a reliable methodology to the facts of the case, considering what actually happened with some of the Direct VAR transactions included in his analysis. Although not entirely clear, Mr. Levitske appears to calculate his average realization rate of 62.9% by taking certain Direct VAR transactions where the revenue adjustment to back out these transactions would have had a financial impact in either H1 2010 or H1 2011. Levitske Report 2 ¶ 2.1.20(f)(ii) (Table 1). He then calculates a % of revenue realized metric for each of these transactions by dividing the revenue realized from the end customer agreement (if it existed) up to Q4 2011 by the revenue recognized from the initial VAR agreement. The average of the % revenue realized for each of these transactions is 62.9% -- Mr. Levitske’s calculated “realization rate”. *Id.* Two of the Direct VAR transactions that were incorporated in this analysis, however, Dell Hyatt and Abbott, were cancelled by Autonomy – i.e., Autonomy never entered into an end user agreement. Nevertheless, Mr. Levitske applies his realization rate calculation to Mr. Brice’s full revenue adjustment for H1 2011, which includes the two Direct VAR deals that were ultimately cancelled. *See id.* ¶ 2.1.20(f)(iii) (Table 2). In doing so, Mr. Levitske is essentially applying his 62.9% “realization rate” to two VAR deals, totaling almost \$14m, *that never closed with the end user*. This is an absurd result and does not constitute a reliable method or principle applied to the facts of the case.

Two other transactions incorporated within Mr. Levitske’s set of Direct VAR transactions, pertaining to UBS and totaling over \$15m, had related end user agreements dating from Q3 2011 that

1 totaled approximately \$13.59m. Mr. Levitske, therefore, calculated an 86.7% realization rate for these
 2 transactions and included that within his calculation for the average realization rate. *Id.* ¶ 2.1.20(f)(ii)
 3 (Table 1). As Mr. Brice explains in his supplemental rebuttal opinion, however, these end user
 4 agreements involved an appliance sale and the hardware portion of the appliance was not delivered until
 5 after Q4 2011, therefore, rather than recognizing \$13.59m of revenue by Q4 2011 as calculated by Mr.
 6 Levitske, no revenue should have been recognized by that date. Brice Rebuttal Report ¶¶ 2.4.21–2.4.26.
 7 In addition, UBS and Autonomy ultimately cancelled these deals in 2013, again bolstering the argument
 8 that no revenue should have been recognized by Q4 2011 under Mr. Levitske’s analysis. *Id.* Finally, the
 9 purported basis of the normalization analysis requires a determination of the average revenue realized
 10 when a Direct VAR transaction is consummated with an end user. If that is the purpose, then Mr.
 11 Levitske provides no explanation for why he includes only certain Direct VAR transactions that have a
 12 financial impact in H1 2010 and H1 2011, as opposed to taking an average of *all* Direct VAR
 13 transactions that took place between Q1 2009 and Q2 2011. If Mr. Levitske had included all Direct
 14 VAR transactions for the Q1 2009– Q2 2011 period, and also accounted for the UBS deals by using a
 15 realization rate of 0% instead of 86.7%, then Mr. Levitske’s average realization rate would have dropped
 16 by around 20%. Brice Rebuttal Report ¶ 2.4.30.

17 In sum, Mr. Levitske’s new normalization adjustment was not timely noticed under Rule 16, is
 18 irrelevant, will not assist the jury in determining facts at issue, and does not reflect a reliable
 19 methodology. The analysis is prejudicial and serves no other purpose than to confuse and mislead the
 20 jury, and waste time. This analysis and any related conclusions should be excluded. Fed. R. Evid. 401,
 21 402, 403, 702; Fed. R. Crim. P. 16.

22 **IV. CONCLUSION**

23 Mr. Levitske draws conclusions based on complicated and confusing analyses that are of
 24 marginal if any relevance to this case. For the reasons stated above his testimony should be excluded. If
 25 the Court is not inclined to exclude Mr. Levitske in his entirety, at the very least the Court should
 26 exclude all new opinions and analyses that were not timely noticed under Rule 16, including (1) the
 27 unsubstantiated assertion that “cash flow is the most important valuation metric”; (2) any opinions
 28 related to Mr. Levitske’s new calculated metric of cash flow as a percentage of revenue; (3) the analysis

1 that excludes VAR transactions in their entirety and any related conclusions; (4) the
2 “normalization” analysis and any related conclusions. These analyses and conclusions do not reflect a
3 reliable application of principles and methods to the facts of the case, are irrelevant, confusing,
4 misleading, and will waste time. Fed. R. Evid. 401, 402, 403, 702.

5
6 DATED: April 25, 2024

Respectfully submitted,

7 PATRICK D. ROBBINS
8 Attorney for the United States
9 Acting under Authority Conferred by 28
U.S.C. § 515.

10 /s/ Kristina Green

11 ROBERT S. LEACH
12 ADAM A. REEVES
13 KRISTINA GREEN
14 ZACHARY G.F. ABRAHAMSON
15 Assistant United States Attorneys
16
17
18
19
20
21
22
23
24
25
26
27
28